

In re the Patent Application of:
WRIGHT ET AL.
Serial No. 09/976,647
Filed: October 11, 2001

decrypting said reassembled data;
uncompressing said decrypted data; and
storing said uncompressed data.

*BB
Encl.*

75. A computer readable medium having stored thereon instructions which when executed by a processor, cause the processor to perform the steps of:

receiving flight data from a digital flight data acquisition unit in an aircraft;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure when said aircraft has landed, wherein the cellular infrastructure is accessed automatically upon landing of the aircraft.

REMARKS

Applicants file this Amendment Under 37 CFR §1.607 and cancel the existing Claims 1-17. Claims 18-58 had been previously cancelled in the Preliminary Amendment filed on October 11, 2001. Applicants adds new Claims 59-75, which are copied verbatim from U.S. Patent No. 6,181,990, granted January 30, 2001 to John Francis Grabowsky and David Ray Sevens (hereinafter "Grabowsky") for purposes of provoking an interference with that patent.

Claims 59-62 correspond to Claims 1-4 of Grabowsky. Claims 63 and 64 correspond to Claims 6 and 7 of Grabowsky.

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Claims 65-74 correspond to Claims 15-24 of Grabowsky. Claim 75 corresponds to Claim 33 of Grabowsky.

In accordance with 37 CFR §1.607(a), the copied claims may be specifically applied to Applicants' disclosure as follows:

Copied Claim	Applicants' Disclosure
59. An aircraft data transmission system, the aircraft having a data acquisition unit, comprising: a communications unit located in the aircraft and in communication with the data acquisition unit; a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the communication is initiated automatically upon landing of the aircraft; and a data reception unit in communication with said cellular infrastructure.	Title: page 1, lines 1-2 DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17. GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22. FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network. Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands." Server/archive 204 in association with server/archive 304; page 17, lines 18-23.
60. The system of claim 59 wherein said data reception unit is in communication with said cellular infrastructure via the Internet.	Transmission Control Protocol/Internet Protocol (TCP/IP) operative in Ethernet LAN 207 with TELCO connection (FIG. 1). Clearly defined use with Internet.
61. The system of claim 59 wherein said data reception unit is in communication with said cellular infrastructure via the public switch telephone network.	Server/archive 304, gateway segment 306 in communication with ground subsystem 200 via ISDN TELCO (FIG. 1); page 18, lines 6-9. TELCO is public switch telephone network.

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62. The system of claim 59 wherein said communications unit has at least one modem in communication with said cellular infrastructure and

said data reception unit has at least one modem in communication with said cellular infrastructure.

Network transceiver 26 naturally includes modem to modulate/demodulate signals.

Base station 202 naturally includes modem with server 204 to demodulate/modulate signals and operative with Ethernet LAN 207.

63. The system of claim 59 wherein said cellular infrastructure includes:

an antenna;

a transceiver subsystem in communication with said antenna; and

a controller in communication with said transceiver subsystem.

Antenna 222, 223, FIG. 5, page 25, lines 18-23.

Transceiver 221, FIG. 5, page 25, lines 18-23.

Controller/processor 225, FIG. 5, page 26, lines 3-6.

64. The system of claim 59 wherein said data reception unit includes:

a router; and

a processor in communication with said router,

said processor having a storage unit.

Router 201

Server 304 in communication with router 201, FIG. 1; page 19, lines 5-12.

Archive includes memory, database management software; page 19, lines 5-12.

65. An aircraft data transmission system, the aircraft having a data acquisition unit, comprising:

Title: page 1, lines 1-2

DFDAU 16, page 20, lines 16-26;
DFDR 18 operative with GDL 101, page 21, line 11-17.

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means for transmitting data from the data acquisition unit via a cellular infrastructure after the aircraft has landed,

wherein transmission of the data is initiated automatically upon landing of the aircraft; and

means for receiving said data from said cellular infrastructure.

66. The system of claim 65 wherein said means for transmitting data includes a processor.

67. The system of claim 65 wherein said means for receiving data includes a processor.

68. A method of transmitting aircraft flight data from an aircraft, comprising:

receiving flight data from a data acquisition unit;

transmitting said flight data via a cellular communications infrastructure after the aircraft has landed,

wherein the cellular communications infrastructure is accessed automatically upon landing of the aircraft; and

receiving said transmitted flight data.

GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22.

FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.

Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands."

Server/archive 204 in association with server/archive 304; page 17, lines 18-23.

Processor 22, FIG. 3.

Server 304 in communication with router 201, FIG. 1; page 19, lines 5-12.

Title: page 1, lines 1-2

DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.

FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.

Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands."

Server/archive 204 in association with server/archive 304; page 17, lines 18-23.

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69. A computer-implemented method of transmitting aircraft flight data from an aircraft, comprising:

receiving flight data from a digital flight data acquisition unit;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure after the aircraft has landed,

wherein the cellular infrastructure is accessed automatically upon landing of the aircraft.

70. The method of claim 69 further comprising receiving said transmitted data at a flight operations center.

71. The method of claim 70 further comprising receiving said transmitted data and transmitting said received data via the Internet before receiving said transmitted data at a flight operations center.

72. The method of claim 70 further comprising receiving said transmitted data and

transmitting said received data via the public-switched telephone network before receiving said transmitted data at a flight operations center.

73. The method of claim 69 wherein processing said flight data includes:

Title: page 1, lines 1-2.

DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.

GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22.

FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.

Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands."

FIG. 1 Remote Flight Operations Control Center 300.

Transmission Control Protocol/Internet Protocol (TCP/IP) operative in Ethernet LAN 207 with TELCO connection (FIG. 1). Clearly defined use with Internet.

Server/archive 304, gateway segment 306 in communication with ground subsystem 200 via ISDN TELCO (FIG. 1); page 18, lines 6-9.

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compressing said flight data;

Source coding can be used for data compression. Aircraft data downloaded as compressed data. Page 27, lines 9-12 and line 25.

encrypting said flight data;

Aircraft flight data is encrypted. Page 27, line 10.

segmenting said flight data; and

Flight data is segmented into channels. Flight data is multiplexed. Page 27, lines 9 and 19-20.

constructing packets of data from said segmented flight data.

TCP/IP is packet protocol. FIG 1. System produces "flight performance data packet." Page 31, line 10, page 32, line 2.

74. The method of claim 69 wherein receiving said transmitted data includes:

acknowledging receipt of said transmitted data;

Polling occurs and receipts of packets acknowledged and retransmissions requested when errors occur. Standard use of TCP/IP. FIG. 1. Page 9, lines 1-24. Page 41, lines 9-13.

reassembling said received data;

FIG. 1. Base station segment operative with wireless bridge segment and receives packets based on TCP/IP and operative with remote flight operations control center 300; Also operative with GDL work station segment 303 and controller 301 to acknowledge receipt, reassemble data, decrypt, uncompress and store for further use in server/archive 304.

decrypting said reassembled data;

uncompressing said decrypted data;
and

storing said uncompressed data.

75. A computer readable medium having stored thereon instructions which when executed by a processor, cause the processor to perform the steps of:

GDL unit includes processor 22 (FIG. 3) associated with memory 24 as stored instructions.

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receiving flight data from a
digital flight data acquisition
unit in an aircraft;

Title: page 1, lines 1-2

DFDAU 16, page 20, lines 16-26;
DFDR 18 operative with GDL 101,
page 21, line 11-17.

processing said flight data to
prepare said data for transmission;
and

GDL airborne segment 101, GDL unit
111, GDL antenna 113, page 16,
lines 19-22; page 20, lines 16-22.

transmitting said processed data
via a cellular infrastructure when
said aircraft has landed,

FIG. 1A, circular cells defined by
wireless routers 201 and base
stations 202; FIG. 4, circular
cells 214, 215; page 15, lines
23-24; page 23, lines 21-23. Page
37, line 20-25 defines the system
as cellular infrastructure typical
of cellular telephone network.

wherein the cellular infrastructure
is accessed automatically upon
landing of the aircraft.

Page 41, lines 7-9; "that is
automatically downloaded . . . when
aircraft lands."

Applicants have filed this Amendment and copied verbatim from U.S. Patent No. 6,181,990 certain claims that Applicants note are specifically disclosed in Applicants' original disclosure filed November 14, 1995. No affidavits or declarations under 37 CFR §1.608 are submitted with this Amendment because Applicants are the senior party.

Clearly, Applicants' present Amendment shows that Applicants were in possession of the invention as now claimed in the present Amendment. The chart applying the copied claims to Applicants' disclosure shows the use of an aircraft data acquisition unit that acquires data from throughout the aircraft. This data is downloaded after the plane lands at the airport. This can occur automatically after landing. The communication system is structured as a cellular infrastructure, as clearly seen in the cellular cells defined by wireless routers and operative with the TCP/IP protocol and ISDN TELCO as a public switch telephone network. The channel sharing and other communication system is akin to cellular

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telephone networks as clearly described in the specification. The data is received and processed at a remote flight operations control center.

Pursuant to 37 CFR §1.607, Applicants "present" the following proposed Count I:

1. An aircraft data transmission system, the aircraft having a data acquisition unit, comprising:
 - a communications unit located in the aircraft and in communication with the data acquisition unit;
 - a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the communication is initiated automatically upon landing of the aircraft; and
 - a data reception unit in communication with said cellular information.

Applicants submit that the proposed Count I corresponds to patentees' Claims 1-4, 6, 7, 15-24 and 33 and Applicants' Claims 59-75.

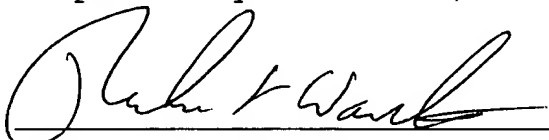
Because the subject application claims original priority as a series of continuation applications to the parent application filed on November 14, 1995, which is about two years and eight months before the filing date of July 30, 1998 for the application that matured into U.S. Patent No. 6,181,990 to Grabowsky et al., Applicants are the senior party and no declarations under 37 CFR §1.608 are required.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

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Applicants also correct by this Amendment the proper serial number that was inadvertently through clerical error listed as 09/714,583, instead of 09/714,584. The corrected filing sheet shows the correct priority as claimed by Applicants.

Respectfully submitted,



RICHARD K. WARTHER
Reg. No. 32,180
Allen, Dyer, Doppelt, Milbrath
& Gilchrist, P.A.
255 S. Orange Avenue, Suite 1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at page 1 at line 1 has been amended as follows:

--This application is a continuation of Serial No. 09/714,584 filed on November 16, 2000, which is a continuation of U.S. patent application Serial No. 09/474,894, filed June 2, 1999, now U.S. Patent No. 6,154,637, which is a continuation of Serial No. 08/557,269, filed November 14, 1995, now U.S. Patent No. 6,047,165. --

In the Title:

Page 1, please delete the current title and substitute the following new title:

-- WIRELESS, GROUND LINK-BASED AIRCRAFT DATA
COMMUNICATION SYSTEM WITH ROAMING FEATURE --

In the Claims:

Claims 1-17 have been cancelled.

New Claims 59-75 have been added:

59. An aircraft data transmission system, the aircraft having a data acquisition unit, comprising:
a communications unit located in the aircraft and in communication with the data acquisition unit;
a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the

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communication is initiated automatically upon landing of the aircraft; and

a data reception unit in communication with said cellular information.

60. The system of claim 59 wherein said data reception unit is in communication with said cellular infrastructure via the Internet.

61. The system of claim 59 wherein said data reception unit is in communication with said cellular infrastructure via the public switch telephone network.

62. The system of claim 59 wherein said communications unit has at least one modem in communication with said cellular infrastructure and said data reception unit has at least one modem in communication with said cellular infrastructure.

63. The system of claim 59 wherein said cellular infrastructure includes:

an antenna;

a transceiver subsystem in communication with said antenna; and

a controller in communication with said transceiver subsystem.

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64. The system of claim 59 wherein said data reception unit includes:
a router; and

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a processor in communication with said router, said processor having a storage unit.

65. An aircraft data transmission system, the aircraft having a data acquisition unit, comprising:
means for transmitting data from the data acquisition unit via a cellular infrastructure after the aircraft has landed, wherein transmission of the data is initiated automatically upon landing of the aircraft; and
means for receiving said data from said cellular infrastructure.

66. The system of claim 65 wherein said means for transmitting data includes a processor.

67. The system of claim 65 wherein said means for receiving data includes a processor.

68. A method of transmitting aircraft flight data from an aircraft, comprising:
receiving flight data from a data acquisition unit;
transmitting said flight data via a cellular communications infrastructure after the aircraft has landed, wherein the cellular communications infrastructure is accessed automatically upon landing of the aircraft; and
receiving said transmitted flight data.

69. A computer-implemented method of transmitting aircraft flight data from an aircraft, comprising:
receiving flight data from a digital flight data acquisition unit;

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processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure after the aircraft has landed, wherein the cellular infrastructure is accessed automatically upon landing of the aircraft.

70. The method of claim 69 further comprising receiving said transmitted data at a flight operations center.

* 71. The method of claim 70 further comprising receiving said transmitted data and transmitting said received data via the Internet before receiving said transmitted data at a flight operations center.

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* 72. The method of claim 70 further comprising receiving said transmitted data and transmitting said received data via the public-switched telephone network before receiving said transmitted data at a flight operations center.

73. The method of claim 69 wherein processing said flight data includes:

compressing said flight data;
encrypting said flight data;
segmenting said flight data; and
constructing packets of data from said segmented flight data.

74. The method of claim 69 wherein receiving said transmitted data includes:

acknowledging receipt of said transmitted data;

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reassembling said received data;
decrypting said reassembled data;
uncompressing said decrypted data; and
storing said uncompressed data.

75. A computer readable medium having stored thereon instructions which when executed by a processor, cause the processor to perform the steps of:

receiving flight data from a digital flight data acquisition unit in an aircraft;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure when said aircraft has landed, wherein the cellular infrastructure is accessed automatically upon landing of the aircraft.